

WHAT IS CLAIMED IS:

1. A suspension system for a vehicle having a generally longitudinally
5 extending frame, the suspension system comprising:

an axle assembly;

an upper trailing arm, one end of the upper arm being attached to the
frame at a first pivot connection, and an opposite end of the upper arm being
attached to the axle assembly at a second pivot connection, the upper arm being
10 angled laterally outward from the frame as the upper arm extends from the first
to the second pivot connection; and

a lower trailing arm, one end of the lower arm being attached to the frame
at a third pivot connection, and an opposite end of the lower arm being attached
to the axle assembly at a fourth pivot connection, the lower arm being angled
15 laterally outward from the frame as the lower arm extends from the third to the
fourth pivot connection.

2. The suspension system according to claim 1, wherein the upper and
lower trailing arms remain substantially parallel to each other as the axle
20 assembly displaces vertically relative to the frame.

3. The suspension system according to claim 1, wherein the first, second, third and fourth pivot connections form vertices of a parallelogram.

4. The suspension system according to claim 1, further comprising a
5 lift mechanism for lifting the axle assembly vertically relative to the frame.

5. The suspension system according to claim 4, wherein the lift mechanism includes a lever arm attached to the third pivot connection.

10 6. The suspension system according to claim 5, wherein the lift mechanism further includes a lift air spring connected between the frame and the lever arm.

7. The suspension system according to claim 1, further comprising
15 first and second hanger brackets attached to the frame and extending downwardly therefrom, and a crossmember connected between the first and second hanger brackets.

8. The suspension system according to claim 7, wherein the upper and
20 lower arms are pivotably connected to the first hanger bracket at the first and third pivot connections, respectively.

9. The suspension system according to claim 7, wherein the third pivot connection comprises the lower trailing arm pivotably supported between the first hanger bracket and the crossmember.

5 10. The suspension system according to claim 7, wherein the crossmember is made of a composite material.

11. The suspension system according to claim 7, wherein the first and second hanger brackets are made of a composite material.

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12. The suspension system according to claim 1, wherein the second and fourth pivot connections are laterally offset relative to each other.

13. The suspension system according to claim 1, wherein the first and
15 third pivot connections are laterally offset relative to each other.

14. The suspension system according to claim 1, wherein each of the upper and lower trailing arms is angled laterally outward relative to the frame as the arm extends from the frame to the axle assembly, and wherein one of the
20 upper and lower arms is angled laterally outward relative to the frame greater than the other of the upper and lower arms.

15. A suspension system for a vehicle having a generally longitudinally extending frame, the suspension system comprising:

an axle assembly;

first and second hanger brackets attached to the frame and extending
5 downwardly therefrom;

a crossmember attached to each of the first and second hanger brackets;

and

at least one first trailing arm pivotably connected to the first hanger
bracket at a pivot connection, the pivot connection extending between the first
10 hanger bracket and the crossmember, and the first trailing arm further being
pivotably connected to the axle assembly.

16. The suspension system according to claim 15, wherein the pivot
connection includes a pivot pin extending between the first hanger bracket and a
15 pivot mounting bracket of the crossmember.

17. The suspension system according to claim 15, further comprising at
least one second trailing arm, the first and second trailing arms being vertically
spaced apart and remaining substantially parallel to each other as the axle
20 assembly displaces vertically relative to the frame.

18. The suspension system according to claim 15, further comprising a lift mechanism for lifting the axle assembly vertically relative to the frame.

19. The suspension system according to claim 18, wherein the lift
5 mechanism includes a lever arm attached to the pivot connection.

20. The suspension system according to claim 19, wherein the lift mechanism further includes a lift air spring connected between the frame and the lever arm.

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21. The suspension system according to claim 15, further comprising at least one second trailing arm vertically spaced apart from the first trailing arm, the second trailing arm being pivotably connected to the axle assembly and to the first hanger bracket, each of the first and second trailing arms being angled
15 laterally outward relative to the frame as the arm extends from the frame to the axle assembly.

22. The suspension system according to claim 21, wherein one of the first and second arms is angled laterally outward relative to the frame greater
20 than the other of the first and second arms.

23. The suspension system according to claim 15, wherein the crossmember is made of a composite material.

24. The suspension system according to claim 15, wherein the first and
5 second hanger brackets are made of a composite material.

25. A suspension system for a vehicle having a generally longitudinally extending frame, the suspension system comprising:

an axle assembly;

first and second hanger brackets attached to the frame and extending
5 downwardly therefrom;

a crossmember attached to each of the first and second hanger brackets;
and

at least one first trailing arm pivotably connected to the first hanger
bracket at a pivot connection, and the first trailing arm further being connected
10 to the axle assembly,

the crossmember and each of the first and second hanger brackets being
made of a composite material.

26. The suspension system according to claim 25, wherein the
15 crossmember and the first and second hanger brackets are integrally formed as a
single piece.

27. The suspension system according to claim 25, wherein the
crossmember, the first hanger bracket and the second hanger bracket are formed
20 as separate pieces.

28. The suspension system according to claim 25, wherein the pivot connection extends between the first hanger bracket and the crossmember.

29. The suspension system according to claim 25, wherein the first
5 trailing arm is pivotably connected to the axle assembly.

30. The suspension system according to claim 25, further comprising a second trailing arm connected between the first hanger bracket and the axle assembly.

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31. The suspension system according to claim 30, wherein each of the first and second trailing arms is angled laterally outward relative to the frame as the arm extends from the frame to the axle assembly.

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32. The suspension system according to claim 31, wherein one of the first and second arms is angled laterally outward relative to the frame greater than the other of the first and second arms.